

Title (en)  
Coaxial waveguide antenna

Title (de)  
Koaxiale Wellenleiterantenne

Title (fr)  
Antenne à guide d'ondes coaxial

Publication  
**EP 2597727 A1 20130529 (EN)**

Application  
**EP 12179963 A 20120809**

Priority  
US 201113303550 A 20111123

Abstract (en)  
Processes and systems for radiating electromagnetic energy from an open-ended coaxial cavity are described herein. An antenna assembly includes an open-ended coaxial radiator. The coaxial assembly includes an inner electrically conducting surface and an outer conductive surface spaced apart from and opposing the inner electrically surface. More than one radially aligned electromagnetic coupling modules are positioned at least partially within the coaxial waveguide along different rotation angles. Each of the different electromagnetic coupling modules samples a local electric field, amplifies the sampled field, and alters a phase of at least one of the amplified fields. The amplified, phase-adjusted coaxial fields are radiated from an open end of the coaxial cavity. Although described for transmission mode, the structure can be operated in receive mode by similarly detecting radiated electric fields, amplifying and applying a phase offset, and radiating the amplified, phase offset fields into an open-ended coaxial cavity.

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**H01Q 13/08** (2006.01); **H01Q 23/00** (2006.01)

CPC (source: EP US)  
**H01Q 13/08** (2013.01 - EP US); **H01Q 23/00** (2013.01 - EP US)

Citation (search report)  
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Designated extension state (EPC)  
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DOCDB simple family (publication)  
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**EP 12179963 A 20120809**; IL 22123712 A 20120801; US 201113303550 A 20111123; US 201615137584 A 20160425